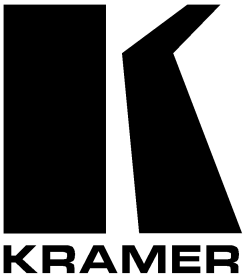
Kramer Electronics, Ltd.



USER MANUAL

Models:

VP-2xl, ***1:2 VGA Distributor***

VP-6xlN, ***1:6 UXGA Distributor***

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1 Introduction

Welcome to Kramer Electronics (since 1981): a world of unique, creative and affordable solutions to the infinite range of problems that confront the video, audio and presentation professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 500-plus different models now appear in 8 Groups[1], which are clearly defined by function.

Congratulations on purchasing your Kramer **VP-2xl** *1:2 VGA Distributor* and/or Kramer **VP-6xlN** *1:6 UXGA Distributor*.

This **VP-2xl** is ideal for:

- Dual monitor desktop multimedia or teleconference systems
- Presentation systems requiring a local monitor and projector operating simultaneously
- Schools, churches, A/V technicians, rental/staging

The **VP-6xlN** is ideal for:

- Any professional system requiring high quality computer graphics (up to at least UXGA) distribution to multiple monitors/projectors
- Expanding and creating larger systems

The package includes the following items:

- **VP-2xl** *1:2 VGA Distributor*[2] or **VP-6xlN** *1:6 UXGA Distributor*[3]
- This user manual[4]

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high performance high resolution cables[5]

1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers; and GROUP 8: Cables and Connectors

2 With a power adapter

3 With a power cord

4 Download up-to-date Kramer user manuals from the Internet at this URL: http://www.kramerelectronics.com

5 The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com

3 Overview

Section 3.1 and section 3.2 describe the **VP-2xl** and **VP-6xlN,** respectively.

3.1 About the VP-2xl

The **VP-2xl** *1:2 VGA Distributor* is a high performance, desktop size, distribution amplifier for computer graphics signals, with resolutions ranging up to at least UXGA, and unbalanced stereo audio signals. It takes one computer graphics input, and an unbalanced stereo audio input, and outputs two computer graphics and two unbalanced stereo audio signals. The **VP-2xl**:

- Has a high bandwidth of 340MHz
- Includes an AUDIO LEVEL control knob to adjust the audio signal level
- Includes a VGA LEVEL control knob to adjust signal level, compensating for cable loss over long distances
- Is HDTV compatible

3.2 About the VP-6xlN

The **VP-6xlN** *1:6 UXGA Distributor* is a high performance computer graphics video amplifier for computer graphics video signals with resolutions ranging up to at least UXGA, and is HDTV compatible. It takes one input, provides correct buffering and isolation, and distributes the signal to six identical outputs. The **VP-6xlN** features:

- A video bandwidth of 500MHz that ensures transparent operation at all graphics resolutions
- ID Bit control underside switches
- A front panel trimmer for UXGA equalization

To achieve the best performance:

- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise-levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances and position your Kramer unit away from moisture, excessive sunlight and dust

4 Your Distributors

This section includes a description of the:

- **VP-2xl** *1:2 VGA Distributor* (see section 4.1)
- **VP-6xlN** *1:6 UXGA Distributor* (see section 4.2)

4.1 The VP-2xl 1:2 VGA Distributor

Figure 1 and Table 1 define the **VP-2xl** *1:2 VGA Distributor:*

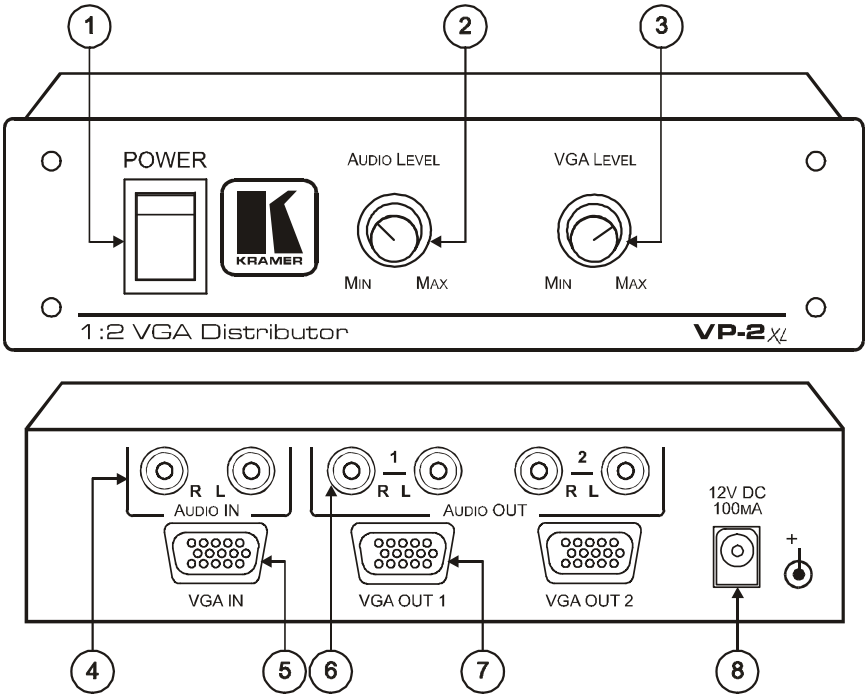


Figure 1: VP-2xl 1:2 VGA Distributor – Front and Rear View

Table 1: Features and Functions of the VP-2xl 1:2 VGA Distributor

#	Feature	Function
1	*POWER* Switch	Illuminated switch for turning the unit ON or OFF
2	*AUDIO LEVEL* Knob	Turn to control the output audio level
3	*VGA LEVEL* Knob	Turn to control the VGA/XGA output level
4	*AUDIO IN (R, L) RCA* Connectors	Connect to the right and left audio source
5	*VGA IN* HD15F Connector	Connect to the VGA/XGA source
6	*AUDIO OUT 1 (R, L) RCA* Connectors	Connect to the right and left audio acceptor 1
	AUDIO OUT 2 (R, L) RCA Connectors	Connect to the right and left audio acceptor 2
7	*VGA OUT 1* HD15F Connector	Connect to the VGA/XGA acceptor 1
	VGA OUT 2 HD15F Connector	Connect to the VGA/XGA acceptor 2
8	*12V DC*	+12V DC connector for powering the unit

4.2 The VP-6xlN 1:6 UXGA Distributor

Figure 2 and Table 2 define the **VP-6xlN** *1:6 UXGA Distributor:*

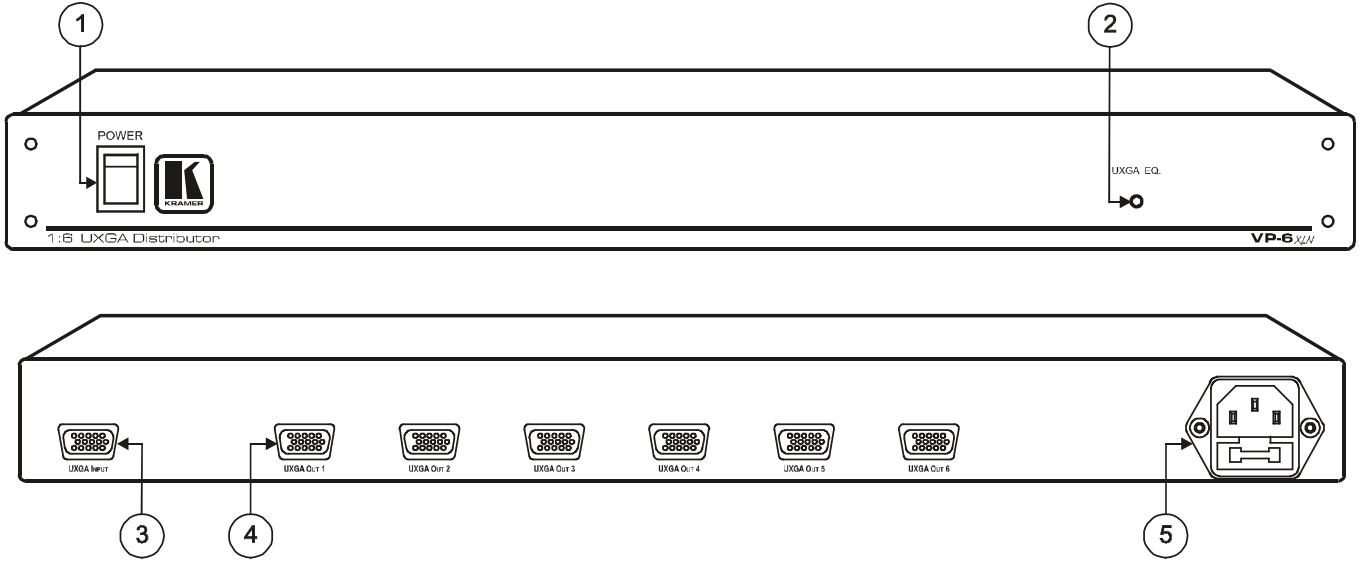


Figure 2: VP-6xlN 1:6 UXGA Distributor – Front and Rear View

Table 2: Features and Functions of the VP-6xlN 1:6 UXGA Distributor

#	Feature	Function
1	*POWER* Switch	Illuminated switch for turning the unit ON or OFF
2	UXGA EQ. Trimmer	Adjusts[1] the video EQ. (equalization) compensation
3	*UXGA INPUT* HD15F Connector	Connect to the computer graphics (UXGA) source
4	UXGA *OUT* HD15F Connectors	Connect to the computer graphics (UXGA) acceptors (from 1 to 6)
5	Power Connector with FUSE	AC connector enabling power supply to the unit

Figure 3 and Table 3 define the underside panel switches of the **VP-6xlN**:

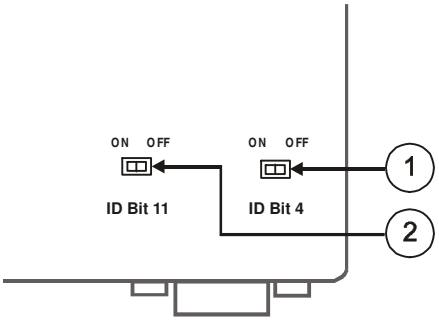


Figure 3: Underside of the VP-6xlN 1:6 UXGA Distributor

Table 3: Underside Features of the VP-6xlN 1:6 UXGA Distributor

#	Feature	Function
1	*ID BIT 4* Switch	Slide to the left to set to ON[2]; to the right to set to OFF
2	*ID BIT 11* Switch	Slide to the left to set to ON[2]; to the right to set to OFF

1 Insert a screwdriver into the hole and carefully rotate it, to trim the level

2 The default. Enabling the notebook or laptop to output a VGA signal to an external VGA monitor

5 Installing on a Rack

This section describes what to do before installing the **VP-6xlN** on a rack and how to rack mount. To rack-mount the **VP-2xl**, see the Rack Adapters user manual for detailed instructions.

Before Installing on a Rack

Before installing on a rack, be sure that the environment is within the recommended range:	
Operating temperature range	+5 to +45 Deg. Centigrade
Operating humidity range	5 to 65 % RHL, non-condensing
Storage temperature range	-20 to +70 Deg. Centigrade
Storage humidity range	5 to 95% RHL, non-condensing

CAUTION!!

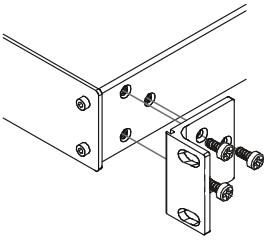
When installing on a 19" rack, avoid hazards by taking care that:

1. It is located within the recommended environmental conditions, as the operating ambient temperature of a closed or multi unit rack assembly may exceed the room ambient temperature.
2. Once rack mounted, enough air will still flow around the machine.
3. The machine is placed straight in the correct horizontal position.
4. You do not overload the circuit(s). When connecting the machine to the supply circuit, overloading the circuits might have a detrimental effect on overcurrent protection and supply wiring. Refer to the appropriate nameplate ratings for information. For example, for fuse replacement, see the value printed on the product label.
5. The machine is earthed (grounded) in a reliable way and is connected only to an electricity socket with grounding. Pay particular attention to supply connections other than direct connections to the branch circuit (for example, the use of power strips), and that you use only the power cord that is supplied with the machine.

How to Rack Mount

To rack-mount the machine:

1. Attach both ear brackets to the machine. To do so, remove the screws from each side of the machine (3 on each side), and replace those screws through the ear brackets.



2. Place the ears of the machine against the rack rails, and insert the proper screws (not provided) through each of the four holes in the rack ears.

Note that:

- In some models, the front panel may feature built-in rack ears
- Detachable rack ears can be removed for desktop use
- Always mount the machine in the rack before you attach any cables or connect the machine to the power
- If you are using a Kramer rack adapter kit (for a machine that is not 19"), see the Rack Adapters user manual for installation instructions (you can download it at: http://www.kramerelectronics.com)

6 Connecting the Distributors

The following sections describe how to connect the:

- **VP-2xl** *1:2 VGA Distributor* (see section 6.1)
- **VP-6xlN** *1:6 UXGA Distributor* (see section 6.2)

6.1 Connecting the VP-2xl

To connect the **VP-2xl**, as the example in Figure 4 illustrates:

1. Connect a computer graphics source (for example, a computer) to the INPUT HD15F connector and to the R and L AUDIO IN RCA connectors.
2. Connect the OUTPUT HD15F connectors to up to[1] two acceptors (for example, a display and a projector) and connect the R and L AUDIO OUT RCA connectors to audio acceptors (for example, two amplifiers with speakers).
3. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity (not illustrated in Figure 4).
4. If required, adjust the AUDIO LEVEL and the VGA LEVEL.

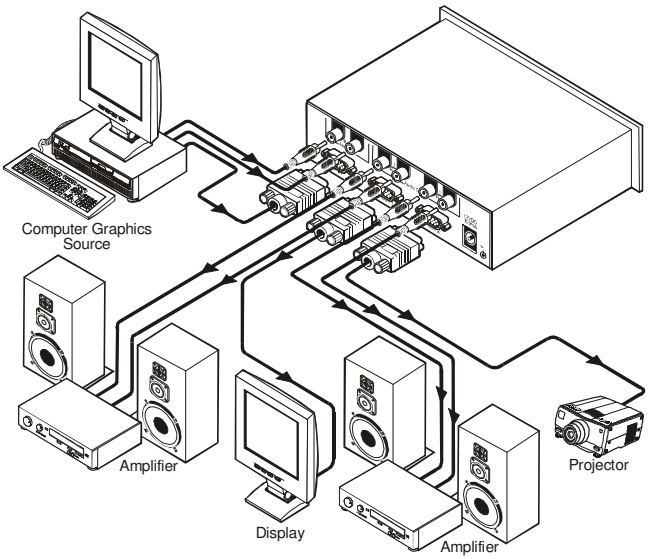


Figure 4: Connecting the VP-2xl 1:2 VGA Distributor

1 When both outputs are not required, connect only the output that is required and leave the other output unconnected

6.2 Connecting the VP-6xlN

To connect the **VP-6xlN**, as the example in Figure 5 illustrates:

1. Connect a computer graphics source (for example, a computer) to the UXGA INPUT HD15F connector.
2. Connect the UXGA OUTPUT HD15F connectors to up to[1] six acceptors (for example, display 1 to display 6).
3. Connect the power cord[2] (not shown in this illustration).
4. Adjust[3] the UXGA EQ. cable compensation equalization level, if required.
5. Set the ID BIT switches 4 and 11 on the underside to ON (by sliding them to the left). This would enable a notebook or laptop (if connected instead of a computer) to output an UXGA signal to an external VGA monitor.

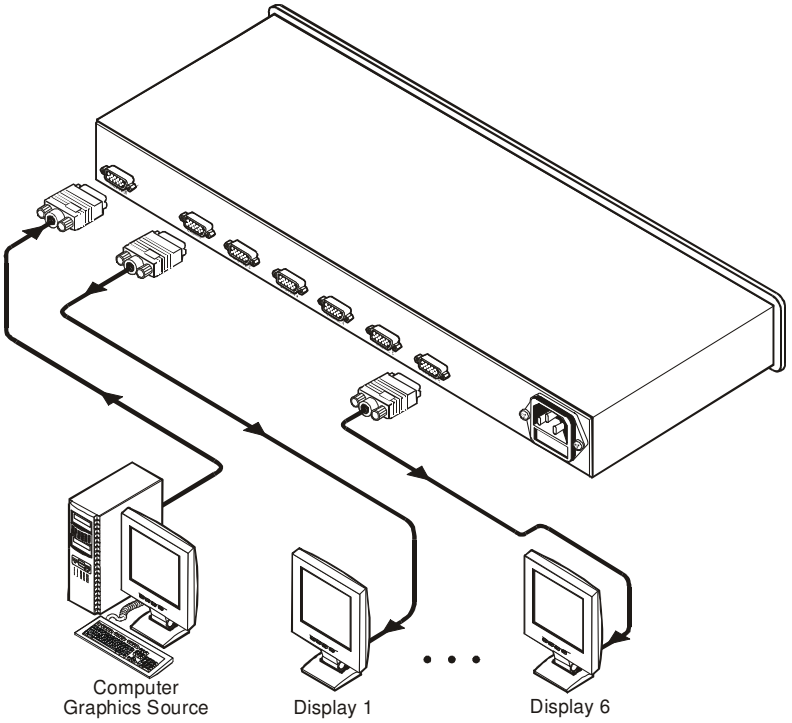


Figure 5: Connecting the VP-6xlN 1:6 UXGA Distributor

1 When not all outputs are required, connect only the outputs that are required and leave the other outputs unconnected

2 We recommend that you use only the power cord that is supplied with this machine

3 Use a screwdriver to carefully rotate the trimmer, adjusting the appropriate level

7 Technical Specifications

Table 4: Technical Specifications[1] of the VP-2xl 1:2 VGA Distributor

INPUTS:	VIDEO: 1 VGA/XGA on an HD15F connector	AUDIO: 1 audio stereo 1Vpp/10kΩ on RCA connectors
OUTPUTS:	VIDEO: 2 VGA/XGA on HD15F connectors	AUDIO: 2 audio stereo 1Vpp/150Ω on RCA connectors (max.output 5 Vpp.)
BANDWIDTH:	VIDEO: 340MHz	AUDIO: 100 kHz
DIFF. GAIN:	0.04%	
DIFF. PHASE:	0.07 Deg	
VGA LEVEL CONTROL:	-0.7 to + 5.1dB	
AUDIO CONTROL:	-55dB to + 6dB	
AUDIO THD:	0.02%	
AUDIO 2nd HARMONIC:	0.003%	
VIDEO S/N RATIO:	VIDEO: 77dB	AUDIO 85dB
DIMENSIONS:	6.5cm x 12 cm x 4.5 cm (6.5" x 4.7" x 1.8", W, D, H.)	
POWER SOURCE:	12VDC, 100mA	
WEIGHT:	0.7 kg. (1.5 lbs.) approx.	
ACCESSORIES:	Power supply	
OPTIONS:	VA-50P rack mountable power supply with six 12VDC outlets. RK-50RN rack adapter	

Table 5: Technical Specifications[1] of the VP-6xlN 1:6 UXGA Distributor

INPUTS:	1 XGA on an HD15F connector
OUTPUTS:	6 XGA on HD15F connectors
MAX. OUTPUT LEVEL:	1.7Vpp
BANDWIDTH:	500MHz
DIFF. GAIN:	0.09%
DIFF. PHASE:	0.01 Deg.
K-FACTOR:	<0.05%
S/N RATIO:	72dB
CONTROLS:	0 to +10dB EQ.
COUPLING:	DC
POWER SOURCE:	100-240 VAC, 50/60Hz, 18VA
DIMENSIONS:	19 inch (W), 7 inch (D) 1U (H) rack mountable
WEIGHT:	2.7 kg. (6 lbs.) approx.
ACCESSORIES:	Power cord

1 Specifications are subject to change without notice

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for seven years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the Web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
   - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
   - ii) Product modification, or failure to follow instructions supplied with the product
   - iii) Repair or attempted repair by anyone not authorized by Kramer
   - iv) Any shipment of the product (claims must be presented to the carrier)
   - v) Removal or installation of the product
   - vi) Any other cause, which does not relate to a product defect
   - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.
NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.
This equipment has been tested to determine compliance with the requirements of:

EN-50081:	"Electromagnetic compatibility (EMC); generic emission standard. Part 1: Residential, commercial and light industry"
EN-50082:	"Electromagnetic compatibility (EMC) generic immunity standard. Part 1: Residential, commercial and light industry environment".
CFR-47:	FCC Rules and Regulations: Part 15: "Radio frequency devices Subpart B – Unintentional radiators"

CAUTION!

- ⌦ Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- ⌦ Use the supplied DC power supply to feed power to the machine.
- ⌦ Please use recommended interconnection cables to connect the machine to other components.

For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com, where updates to this user manual may be found.
We welcome your questions, comments and feedback.

Safety Warning:
Disconnect the unit from the power supply before opening/servicing.

Kramer Electronics, Ltd.
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P/N: 2900-000097 REV 3